

## SEQUENCE LISTING

&lt;110&gt; Newman, Walter

&lt;120&gt; HMGB1 COMBINATION THERAPIES

&lt;130&gt; 3258.1008-001

&lt;150&gt; 60/427,846

&lt;151&gt; 2002-11-20

&lt;160&gt; 58

&lt;170&gt; FastSEQ for Windows Version 4.0

&lt;210&gt; 1

&lt;211&gt; 215

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Gly | Asp | Pro | Lys | Lys | Pro | Arg | Gly | Lys | Met | Ser | Ser | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Arg | Glu | Glu | His | Lys | Lys | Lys | His | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu | Phe | Ser | Lys | Lys | Cys | Ser | Glu | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Lys | Thr | Met | Ser | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ala | Asp | Lys | Ala | Arg | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Lys | Gly | Glu | Thr | Lys | Lys | Lys | Phe | Lys | Asp | Pro | Asn | Ala | Pro | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Pro | Pro | Ser | Ala | Phe | Phe | Leu | Phe | Cys | Ser | Glu | Tyr | Arg | Pro | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Ser | Ile | Gly | Asp | Val | Ala | Lys | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Gly | Glu | Met | Trp | Asn | Asn | Thr | Ala | Ala | Asp | Asp | Lys | Gln | Pro | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Glu | Lys | Asp | Ile | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asp | Ala | Ala | Lys | Lys | Gly | Val | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Ala | Glu | Lys | Ser | Lys | Lys | Lys | Lys | Glu | Glu | Glu | Glu | Asp | Glu | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Glu | Glu | Asp | Glu | Glu | Glu | Glu | Glu | Asp | Glu | Glu | Asp | Glu | Asp | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Glu | Asp | Asp | Asp | Asp | Glu |     |     |     |     |     |     |     |     |     |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 2

&lt;211&gt; 215

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

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&lt;400&gt; 2

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Gly | Asp | Pro | Lys | Lys | Pro | Arg | Gly | Lys | Met | Ser | Ser | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Arg | Glu | Glu | His | Lys | Lys | Lys | His | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu | Phe | Ser | Lys | Lys | Cys | Ser | Glu | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Lys | Thr | Met | Ser | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ala | Asp | Lys | Ala | Arg | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Lys | Gly | Glu | Thr | Lys | Lys | Lys | Phe | Lys | Asp | Pro | Asn | Ala | Pro | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Pro | Pro | Ser | Ala | Phe | Phe | Leu | Phe | Cys | Ser | Glu | Tyr | Arg | Pro | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Ser | Ile | Gly | Asp | Val | Ala | Lys | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Gly | Glu | Met | Trp | Asn | Asn | Thr | Ala | Ala | Asp | Asp | Lys | Gln | Pro | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Glu | Lys | Asp | Ile | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |
| Ala | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asp | Ala | Ala | Lys | Lys | Gly | Val | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Lys | Ala | Glu | Lys | Ser | Lys | Lys | Lys | Lys | Glu | Glu | Glu | Asp | Asp | Glu | Glu |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Asp | Glu | Glu | Asp | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Glu | Asp | Glu | Asp | Glu |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Glu | Glu | Asp | Asp | Asp | Asp | Glu |     |     |     |     |     |     |     |     |     |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 3

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Gly | Asp | Pro | Asn | Lys | Pro | Arg | Gly | Lys | Met | Ser | Ser | Tyr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Arg | Glu | Glu | His | Lys | Lys | Lys | His | Pro |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Asp | Ser | Ser | Val | Asn | Phe | Ala | Glu | Phe | Ser | Lys | Lys | Cys | Ser | Glu | Arg |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Trp | Lys | Thr | Met | Ser | Ala | Lys | Glu | Lys | Ser | Lys | Phe | Glu | Asp | Met | Ala |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Lys | Ser | Asp | Lys | Ala | Arg | Tyr | Asp | Arg | Glu | Met | Lys | Asn | Tyr | Val | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Pro | Lys | Gly | Asp | Lys | Lys | Gly | Lys | Lys | Lys | Asp | Pro | Asn | Ala | Pro | Lys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Arg | Pro | Pro | Ser | Ala | Phe | Phe | Leu | Phe | Cys | Ser | Glu | His | Arg | Pro | Lys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ile | Lys | Ser | Glu | His | Pro | Gly | Leu | Ser | Ile | Gly | Asp | Thr | Ala | Lys | Lys |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Leu | Gly | Glu | Met | Trp | Ser | Glu | Gln | Ser | Ala | Lys | Asp | Lys | Gln | Pro | Tyr |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Glu | Gln | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Glu | Lys | Asp | Ile | Ala |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     | 160 |     |

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Ala Tyr Arg Ala Lys Gly Lys Ser Glu Ala Gly Lys Lys Gly Pro Gly  
                           165                          170                          175  
 Arg Pro Thr Gly Ser Lys Lys Lys Asn Glu Pro Glu Asp Glu Glu Glu  
                           180                          185                          190  
 Glu Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Asp Glu Asp Glu  
                           195                          200                          205  
 Glu

<210> 4  
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 <212> PRT  
 <213> Homo sapiens

<400> 4  
 Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu  
   1                          5                          10                          15  
 Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met  
                           20                          25                          30  
 Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile  
                           35                          40                          45  
 Pro Pro Lys Gly Glu Thr  
                           50

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 <211> 69  
 <212> PRT  
 <213> Homo sapiens

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 Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu  
   1                          5                          10                          15  
 Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp  
                           20                          25                          30  
 Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp  
                           35                          40                          45  
 Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu  
                           50                          55                          60  
 Lys Asp Ile Ala Ala  
                           65

<210> 6  
 <211> 22  
 <212> DNA  
 <213> Homo sapiens

<400> 6  
 gatgggcaaa ggagatccta ag

22

<210> 7  
 <211> 29  
 <212> DNA  
 <213> Homo sapiens

<400> 7  
gcggccgctt attcatcatc atcatcttc 29

<210> 8  
<211> 22  
<212> DNA  
<213> Homo sapiens

<400> 8  
gatgggcaaa ggagatccta ag 22

<210> 9  
<211> 32  
<212> DNA  
<213> Homo sapiens

<400> 9  
gcggccgctc acttgctttt ttcagccttg ac 32

<210> 10  
<211> 21  
<212> DNA  
<213> Homo sapiens

<400> 10  
gagcataaga agaagcaccc a 21

<210> 11  
<211> 32  
<212> DNA  
<213> Homo sapiens

<400> 11  
gcggccgctc acttgctttt ttcagccttg ac 32

<210> 12  
<211> 24  
<212> DNA  
<213> Homo sapiens

<400> 12  
aagttcaagg atcccaatgc aaag 24

<210> 13  
<211> 32  
<212> DNA  
<213> Homo sapiens

<400> 13  
gcggccgctc aatatgcagc tatatccttt tc 32

<210> 14  
<211> 22  
<212> DNA  
<213> Homo sapiens

<400> 14

gatgggcaaaa ggagatccta ag

22

<210> 15  
 <211> 24  
 <212> DNA  
 <213> Homo sapiens

<400> 15  
 tcactttttt gtctcccctt tggg

24

<210> 16  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
 Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu  
 1 5 10 15  
 Tyr Arg Pro Lys  
 20

<210> 17  
 <211> 54  
 <212> PRT  
 <213> Homo sapiens

<400> 17  
 Pro Asp Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu  
 1 5 10 15  
 Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met  
 20 25 30  
 Ala Lys Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val  
 35 40 45  
 Pro Pro Lys Gly Asp Lys  
 50

<210> 18  
 <211> 216  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr  
 1 5 10 15  
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro  
 20 25 30  
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg  
 35 40 45  
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala  
 50 55 60  
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro  
 65 70 75 80  
 Pro Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys  
 85 90 95  
 Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     | 100 |     |     |     |     | 105 |     |     |     | 110 |     |     |     |  |  |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Ser | Ile | Gly | Asp | Val | Ala | Lys | Lys |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Leu | Gly | Glu | Met | Trp | Asn | Asn | Thr | Ala | Ala | Asp | Asp | Lys | Gln | Pro | Tyr |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Glu | Lys | Asp | Ile | Ala |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ala | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asp | Ala | Ala | Lys | Lys | Gly | Val | Val |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Lys | Ala | Glu | Lys | Ser | Lys | Lys | Lys | Lys | Glu | Glu | Glu | Glu | Asp | Glu | Glu |  |  |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     |     | 190 |     |     |  |  |
| Asp | Glu | Glu | Asp | Glu | Glu | Glu | Glu | Glu | Asp | Glu | Glu | Asp | Glu | Glu | Asp |  |  |
|     | 195 |     |     |     |     | 200 |     |     |     |     |     | 205 |     |     |     |  |  |
| Glu | Glu | Glu | Asp | Asp | Asp | Asp | Glu |     |     |     |     |     |     |     |     |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     |     |     |     |     |     |  |  |

<210> 19  
 <211> 182  
 <212> PRT  
 <213> Homo sapiens

<400> 19

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Gly | Lys | Gly | Asp | Pro | Lys | Lys | Pro | Thr | Gly | Lys | Met | Ser | Ser | Tyr |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     | 15  |     |     |  |  |
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Arg | Glu | Glu | His | Lys | Lys | Lys | His | Pro |  |  |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |  |  |
| Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu | Phe | Ser | Lys | Lys | Cys | Ser | Glu | Arg |  |  |
|     | 35  |     |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |  |  |
| Trp | Lys | Thr | Met | Ser | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met | Ala |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     |     | 60  |     |     |     |     |  |  |
| Lys | Ala | Asp | Lys | Ala | Arg | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro |  |  |
| 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |  |  |
| Pro | Lys | Gly | Glu | Thr | Lys | Lys | Lys | Phe | Lys | Asp | Pro | Asn | Ala | Pro | Lys |  |  |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |     |  |  |
| Arg | Leu | Pro | Ser | Ala | Phe | Phe | Leu | Phe | Cys | Ser | Glu | Tyr | Arg | Pro | Lys |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Ser | Ile | Gly | Asp | Val | Ala | Lys | Lys |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |     |  |  |
| Leu | Gly | Glu | Met | Trp | Asn | Asn | Thr | Ala | Ala | Asp | Asp | Lys | Gln | Pro | Tyr |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Glu | Lys | Asp | Ile | Ala |  |  |
| 145 |     |     |     | 150 |     |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Ala | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asp | Ala | Ala | Lys | Lys | Gly | Val | Val |  |  |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |  |  |
| Lys | Ala | Glu | Lys | Ser | Lys |     |     |     |     |     |     |     |     |     |     |  |  |
|     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 20  
 <211> 74  
 <212> PRT  
 <213> Homo sapiens

<400> 20

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Phe | Lys | Asp | Pro | Asn | Ala | Pro | Lys | Arg | Leu | Pro | Ser | Ala | Phe | Phe | Leu |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |

[illegible]

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<210> 21
<211> 85
<212> PRT
<213> Homo sapiens
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```

<400> 21
Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
 1      5      10      15
Ala Phe Phe Val Gln Thr Cys Arg Glu His Lys Lys Lys His Pro
 20      25      30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35      40      45
Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50      55      60
Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65      70      75      80
Pro Lys Gly Glu Thr
      85

```

```
<210> 22
<211> 77
<212> PRT
<213> Homo sapiens
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|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 22 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Pro      | Thr | Gly | Lys | Met | Ser | Ser | Tyr | Ala | Phe | Phe | Val | Gln | Thr | Cys | Arg |
| 1        |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Glu      | Glu | His | Lys | Lys | Lys | His | Pro | Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Phe      | Ser | Lys | Lys | Cys | Ser | Glu | Arg | Trp | Lys | Thr | Met | Ser | Ala | Lys | Glu |
|          |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys      | Gly | Lys | Phe | Glu | Asp | Met | Ala | Lys | Ala | Asp | Lys | Ala | Arg | Tyr | Glu |
|          | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg      | Glu | Met | Lys | Thr | Tyr | Ile | Pro | Pro | Lys | Gly | Glu | Thr |     |     |     |
| 65       |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     |     |

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<210> 23
<211> 20
<212> PRT
<213> Homo sapiens
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```
<400> 23
Phe Lys Asp Pro Asn Ala Pro Lys Arg Leu Pro Ser Ala Phe Phe Leu
  1             5             10             15
Phe Cys Ser Glu
```

20

<210> 24  
 <211> 216  
 <212> PRT  
 <213> Homo sapiens

<400> 24  
 Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr  
 1 5 10 15  
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro  
 20 25 30  
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg  
 35 40 45  
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala  
 50 55 60  
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro  
 65 70 75 80  
 Pro Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys  
 85 90 95  
 Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys  
 100 105 110  
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys  
 115 120 125  
 Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr  
 130 135 140  
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala  
 145 150 155 160  
 Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val  
 165 170 175  
 Lys Ala Glu Lys Ser Lys Lys Lys Lys Glu Glu Glu Glu Asp Glu Glu  
 180 185 190  
 Asp Glu Glu Asp Glu Glu Glu Glu Asp Glu Glu Asp Glu Asp  
 195 200 205  
 Glu Glu Glu Asp Asp Asp Asp Glu  
 210 215

<210> 25  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 25  
 Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr  
 1 5 10 15  
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Ser  
 20 25 30  
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Asn Lys Cys Ser Glu Arg  
 35 40 45  
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala  
 50 55 60  
 Lys Ala Asp Lys Thr His Tyr Glu Arg Gln Met Lys Thr Tyr Ile Pro  
 65 70 75 80  
 Pro Lys Gly Glu Thr Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys  
 85 90 95



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Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr His Pro Lys
      100      105      110
Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
      115      120      125
Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Gly
      130      135      140
Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
145      150      155      160
Ala Tyr Gln Ala Lys Gly Lys Pro Glu Ala Ala Lys Lys Gly Val Val
      165      170      175
Lys Ala Glu Lys Ser Lys Lys Lys Lys Glu Glu Glu Glu Asp Glu Glu
      180      185      190
Asp Glu Glu Asp Glu Glu Glu Glu Asp Glu Glu Asp Glu Glu Asp Asp
      195      200      205
Asp Asp Glu
      210

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<210> 26  
 <211> 188  
 <212> PRT  
 <213> Homo sapiens

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<400> 26
Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr
  1      5      10      15
Ala Phe Phe Val Gln Thr Cys Arg Glu Glu Cys Lys Lys Lys His Pro
      20      25      30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
      35      40      45
Trp Lys Ala Met Ser Ala Lys Asp Lys Gly Lys Phe Glu Asp Met Ala
      50      55      60
Lys Val Asp Lys Asp Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
65      70      75      80
Pro Lys Gly Glu Thr Lys Lys Lys Phe Glu Asp Ser Asn Ala Pro Lys
      85      90      95
Arg Pro Pro Ser Ala Phe Leu Leu Phe Cys Ser Glu Tyr Cys Pro Lys
      100      105      110
Ile Lys Gly Glu His Pro Gly Leu Pro Ile Ser Asp Val Ala Lys Lys
      115      120      125
Leu Val Glu Met Trp Asn Asn Thr Phe Ala Asp Asp Lys Gln Leu Cys
      130      135      140
Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Lys Lys Asp Thr Ala
145      150      155      160
Thr Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
      165      170      175
Lys Ala Glu Lys Ser Lys Lys Lys Lys Glu Glu Glu
      180      185

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<210> 27  
 <211> 205  
 <212> PRT  
 <213> Homo sapiens

```

<400> 27
Met Asp Lys Ala Asp Pro Lys Lys Leu Arg Gly Glu Met Leu Ser Tyr

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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |
| Ala | Phe | Phe | Val | Gln | Thr | Cys | Gln | Glu | Glu | His | Lys | Lys | Lys | Asn | Pro |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     |     | 30  |     |  |
| Asp | Ala | Ser | Val | Lys | Phe | Ser | Glu | Phe | Leu | Lys | Lys | Cys | Ser | Glu | Thr |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |
| Trp | Lys | Thr | Ile | Phe | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met | Ala |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |
| Lys | Ala | Asp | Lys | Ala | His | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile | Pro |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |
| Pro | Lys | Gly | Glu | Lys | Lys | Lys | Lys | Phe | Lys | Asp | Pro | Asn | Ala | Pro | Lys |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     |     | 95  |     |  |
| Arg | Pro | Pro | Leu | Ala | Phe | Phe | Leu | Phe | Cys | Ser | Glu | Tyr | Arg | Pro | Lys |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |
| Ile | Lys | Gly | Glu | His | Pro | Gly | Leu | Ser | Ile | Asp | Asp | Val | Val | Lys | Lys |  |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |
| Leu | Ala | Gly | Met | Trp | Asn | Asn | Thr | Ala | Ala | Ala | Asp | Lys | Gln | Phe | Tyr |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |
| Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys | Glu | Lys | Tyr | Lys | Lys | Asp | Ile | Ala |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |
| Ala | Tyr | Arg | Ala | Lys | Gly | Lys | Pro | Asn | Ser | Ala | Lys | Lys | Arg | Val | Val |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     |     | 175 |     |  |
| Lys | Ala | Glu | Lys | Ser | Lys | Lys | Lys | Lys | Glu | Glu | Glu | Glu | Asp | Glu | Glu |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |
| Asp | Glu | Gln | Glu | Glu | Glu | Asn | Glu | Glu | Asp | Asp | Asp | Lys |     |     |     |  |
|     | 195 |     |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |

<210> 28  
 <211> 80  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
 Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Cys  
 1 5 10 15  
 Ala Phe Phe Val Gln Thr Cys Trp Glu Glu His Lys Lys Gln Tyr Pro  
 20 25 30  
 Asp Ala Ser Ile Asn Phe Ser Glu Phe Ser Gln Lys Cys Pro Glu Thr  
 35 40 45  
 Trp Lys Thr Thr Ile Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Pro  
 50 55 60  
 Lys Ala Asp Lys Ala His Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro  
 65 70 75 80

<210> 29  
 <211> 80  
 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Lys Gln Arg Gly Lys Met Pro Ser Tyr Val Phe Cys Val Gln Thr Cys  
 1 5 10 15  
 Pro Glu Glu Arg Lys Lys Lys His Pro Asp Ala Ser Val Asn Phe Ser  
 20 25 30  
 Glu Phe Ser Lys Lys Cys Leu Val Arg Gly Lys Thr Met Ser Ala Lys  
 35 40 45

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Glu Lys Gly Gln Phe Glu Ala Met Ala Arg Ala Asp Lys Ala Arg Tyr  
 50 55 60  
 Glu Arg Glu Met Lys Thr Tyr Ile Pro Pro Lys Gly Glu Thr Lys Lys  
 65 70 75 80

<210> 30  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Gly Lys Arg Asp Pro Lys Gln Pro Arg Gly Lys Met Ser Ser Tyr  
 1 5 10 15  
 Ala Phe Phe Val Gln Thr Ala Gln Glu His Lys Lys Lys Gln Leu  
 20 25 30  
 Asp Ala Ser Val Ser Phe Ser Glu Phe Ser Lys Asn Cys Ser Glu Arg  
 35 40 45  
 Trp Lys Thr Met Ser Val Lys Glu Lys Gly Lys Phe Glu Asp Met Ala  
 50 55 60  
 Lys Ala Asp Lys Ala Cys Tyr Glu Arg Glu Met Lys Ile Tyr Pro Tyr  
 65 70 75 80  
 Leu Lys Gly Arg Gln Lys  
 85

<210> 31  
 <211> 70  
 <212> PRT  
 <213> Homo sapiens

<400> 31  
 Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Glu Lys Met Pro Ser Tyr  
 1 5 10 15  
 Ala Phe Phe Val Gln Thr Cys Arg Glu Ala His Lys Asn Lys His Pro  
 20 25 30  
 Asp Ala Ser Val Asn Ser Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg  
 35 40 45  
 Trp Lys Thr Met Pro Thr Lys Gln Lys Gly Lys Phe Glu Asp Met Ala  
 50 55 60  
 Lys Ala Asp Arg Ala His  
 65 70

<210> 32  
 <211> 648  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 atgggcaaaag gagatcctaa gaagccgaca ggcaaaatgt catcatatgc atttttttgtg 60  
 caaacttgctc gggaggagca taagaagaag caccagatg cttcagtcaa cttctcagag 120  
 ttttctaaga agtgctcaga gaggtggaag accatgtctg cttaaagagaa aggaaaattt 180  
 gaagatatgg caaaggcgga caaggcccgt tatgaaagag aaatgaaaac ctatatccct 240  
 cccaaagggg agacaaaaaa gaagttcaag gatcccaatg cacccaagag gcttccttcg 300  
 gccttcttcc tcttctgctc tgagtatcgc ccaaaaatca aaggagaaca tcttggcctg 360  
 tccattgggtg atgttgcgaa gaaactggga gagatgtgga ataacactgc tgcagatgac 420

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|             |             |            |            |            |            |     |
|-------------|-------------|------------|------------|------------|------------|-----|
| aagcagcctt  | atgaaaagaa  | ggctgcgaag | ctgaaggaaa | aatacgaaaa | ggatatagct | 480 |
| gcataatcgag | ctaaaggaaa  | gcctgatgca | gcaaaaaagg | gagttgtcaa | ggctgaaaaa | 540 |
| agcaagaaaa  | agaagggaaga | ggaggaagat | gaggaagatg | aagaggatga | ggaggaggag | 600 |
| gaagatgaag  | aagatgaaga  | agatgaagaa | gaagatgatg | atgatgaa   |            | 648 |

&lt;210&gt; 33

&lt;211&gt; 633

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 33

|             |             |            |            |            |            |     |
|-------------|-------------|------------|------------|------------|------------|-----|
| atgggcaaaag | gagatcctaa  | gaagccgaga | ggcaaaatgt | catcatatgc | atTTTTTgtg | 60  |
| caaacttgctc | gggaggagca  | taagaagaag | cactcagatg | cttcagtcaa | cttctcagag | 120 |
| ttttctaaca  | agtgtcaga   | gaggtggaag | accatgtctg | ctaaagagaa | aggaaaattt | 180 |
| gaggatatgg  | caaaggcgga  | caagacccat | tatgaaagac | aaatgaaaac | ctatatccct | 240 |
| cccaaagggg  | agacaaaaaa  | gaagttcaag | gatcccaatg | caccaagag  | gcctccttcg | 300 |
| gccttcttcc  | tgttctgctc  | tgagtatcac | ccaaaaatca | aaggagaaca | tcctggcctg | 360 |
| tccattggtg  | atgttgcgaa  | gaaactggga | gagatgtgga | ataacactgc | tgcagatgac | 420 |
| aagcagcctg  | gtgaaaagaa  | ggctgcgaag | ctgaaggaaa | aatacgaaaa | ggatatgtct | 480 |
| gcataatcaag | ctaaaggaaa  | gcctgaggca | gcaaaaaagg | gagttgtcaa | agctgaaaaa | 540 |
| agcaagaaaa  | agaagggaaga | ggaggaagat | gaggaagatg | aagaggatga | ggaggaggaa | 600 |
| gatgaagaag  | atgaagaaga  | tgatgatgat | gaa        |            |            | 633 |

&lt;210&gt; 34

&lt;211&gt; 564

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 34

|             |             |            |            |            |            |     |
|-------------|-------------|------------|------------|------------|------------|-----|
| atgggcaaaag | gagaccctaa  | gaagccgaga | ggcaaaatgt | catcatatgc | atTTTTTgtg | 60  |
| caaacttgctc | gggaggagtg  | taagaagaag | caccagatg  | cttcagtcaa | cttctcagag | 120 |
| ttttctaaga  | agtgtcaga   | gaggtggaag | gccatgtctg | ctaaagataa | aggaaaattt | 180 |
| gaagatatgg  | caaagggtga  | caaagaccgt | tatgaaagag | aaatgaaaac | ctatatccct | 240 |
| cctaaagggg  | agacaaaaaa  | gaagttcgag | gattccaatg | caccaagag  | gcctccttcg | 300 |
| gcctttttgc  | tgttctgctc  | tgagtattgc | ccaaaaatca | aaggagagca | tcctggcctg | 360 |
| cctattagcg  | atgttgcaaa  | gaaactggta | gagatgtgga | ataacacttt | tgcagatgac | 420 |
| aagcagcttt  | gtgaaaagaa  | ggctgcaaag | ctgaaggaaa | aatacaaaaa | ggatacagct | 480 |
| acataatcgag | ctaaaggaaa  | gcctgatgca | gcaaaaaagg | gagttgtcaa | ggctgaaaaa | 540 |
| agcaagaaaa  | agaagggaaga | ggag       |            |            |            | 564 |

&lt;210&gt; 35

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 35

|             |             |            |            |            |            |     |
|-------------|-------------|------------|------------|------------|------------|-----|
| atggacaaaag | cagatcctaa  | gaagctgaga | ggtgaaatgt | tatcatatgc | atTTTTTgtg | 60  |
| caaacttgctc | aggaggagca  | taagaagaag | aaccagatg  | cttcagtcaa | gttctcagag | 120 |
| tttttaaaaga | agtgtcaga   | gacatggaag | accatttttg | ctaaagagaa | aggaaaattt | 180 |
| gaagatatgg  | caaaggcgga  | caaggcccat | tatgaaagag | aaatgaaaac | ctatatccct | 240 |
| cctaaagggg  | agaaaaaa    | gaagttcaag | gatcccaatg | caccaagag  | gcctcctttg | 300 |
| gcctttttcc  | tgttctgctc  | tgagtatcgc | ccaaaaatca | aaggagaaca | tcctggcctg | 360 |
| tccattgatg  | atgttggtgaa | gaaactggca | gggatgtgga | ataacaccgc | tgcagctgac | 420 |
| aagcagtttt  | atgaaaagaa  | ggctgcaaag | ctgaaggaaa | aatacaaaaa | ggatatgtct | 480 |
| gcataatcgag | ctaaaggaaa  | gcctaattca | gcaaaaaaga | gagttgtcaa | ggctgaaaaa | 540 |
| agcaagaaaa  | agaagggaaga | ggaagaagat | gaagaggatg | aacaagagga | ggaaaatgaa | 600 |
| gaagatgatg  | ataaa       |            |            |            |            | 615 |

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<210> 36  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<400> 36  
 atgggcaaaag gagatcctaa gaagccgaga ggcaaaatgt catcatgtgc attttttgtg 60  
 caaacttggtt gggaggagca taagaagcag taccagatg cttcaatcaa cttctcagag 120  
 ttttctcaga agtgcccaga gacgtggaag accacgattg ctaaagagaa aggaaaattt 180  
 gaagatatgc caaaggcaga caaggcccat tatgaaagag aaatgaaaac ctatataccc 240

<210> 37  
 <211> 240  
 <212> DNA  
 <213> Homo sapiens

<400> 37  
 aaacagagag gcaaaatgcc atcgtatgta ttttgtgtgc aaacttgtcc ggaggagcgt 60  
 aagaagaaac acccagatgc ttcagtcaac ttctcagagt tttctaagaa gtgcttagtg 120  
 agggggaaga ccatgtctgc taaagagaaa ggacaatttg aagctatggc aagggcagac 180  
 aaggcccgtt acgaaagaga aatgaaaaca tatatccctc ctaaagggga gacaaaaaaa 240

<210> 38  
 <211> 258  
 <212> DNA  
 <213> Homo sapiens

<400> 38  
 atgggcaaaa gagaccctaa gcagccaaga ggcaaaatgt catcatatgc attttttgtg 60  
 caaactgctc aggaggagca caagaagaaa caactagatg cttcagtcag tttctcagag 120  
 ttttctaaga actgctcaga gaggtggaag accatgtctg ttaaagagaa aggaaaattt 180  
 gaagacatgg caaaggcaga caaggcctgt tatgaaagag aaatgaaaat atatccctac 240  
 ttaaagggga gacaaaaa 258

<210> 39  
 <211> 211  
 <212> DNA  
 <213> Homo sapiens

<400> 39  
 atgggcaaaag gagaccctaa gaagccaaga gagaaaatgc catcatatgc attttttgtg 60  
 caaacttgta gggaggcaca taagaacaaa catccagatg cttcagtcag ctcctcagag 120  
 ttttctaaga agtgctcaga gaggtggaag accatgccta ctaaacagaa aggaaaattc 180  
 gaagatatgg caaaggcaga cagggcccat a 211

<210> 40  
 <211> 54  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu  
 1 5 10 15  
 Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met  
 20 25 30

Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile  
           35                  40                  45  
 Pro Pro Lys Gly Glu Thr  
       50

<210> 41  
 <211> 53  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Asp Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg  
   1                  5                  10                  15  
 Trp Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met Ala  
           20                  25                  30  
 Lys Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro  
           35                  40                  45  
 Pro Lys Gly Asp Lys  
       50

<210> 42  
 <211> 54  
 <212> PRT  
 <213> Homo sapiens

<400> 42  
 Pro Glu Val Pro Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu  
   1                  5                  10                  15  
 Arg Trp Lys Thr Val Ser Gly Lys Glu Lys Ser Lys Phe Asp Glu Met  
           20                  25                  30  
 Ala Lys Ala Asp Lys Val Arg Tyr Asp Arg Glu Met Lys Asp Tyr Gly  
           35                  40                  45  
 Pro Ala Lys Gly Gly Lys  
       50

<210> 43  
 <211> 54  
 <212> PRT  
 <213> Homo sapiens

<400> 43  
 Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu  
   1                  5                  10                  15  
 Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met  
           20                  25                  30  
 Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile  
           35                  40                  45  
 Pro Pro Lys Gly Glu Thr  
       50

<210> 44  
 <211> 54  
 <212> PRT

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&lt;213&gt; Homo sapiens

&lt;400&gt; 44

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu | Phe | Ser | Asn | Lys | Cys | Ser | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Trp | Lys | Thr | Met | Ser | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Lys | Ala | Asp | Lys | Thr | His | Tyr | Glu | Arg | Gln | Met | Lys | Thr | Tyr | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Pro | Lys | Gly | Glu | Thr |     |     |     |     |     |     |     |     |     |     |
|     |     | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 45

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 45

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Asp | Ala | Ser | Val | Asn | Phe | Ser | Glu | Phe | Ser | Lys | Lys | Cys | Ser | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Trp | Lys | Ala | Met | Ser | Ala | Lys | Asp | Lys | Gly | Lys | Phe | Glu | Asp | Met |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Lys | Val | Asp | Lys | Ala | Asp | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Pro | Lys | Gly | Glu | Thr |     |     |     |     |     |     |     |     |     |     |
|     |     | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 46

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 46

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Asp | Ala | Ser | Val | Lys | Phe | Ser | Glu | Phe | Leu | Lys | Lys | Cys | Ser | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Trp | Lys | Thr | Ile | Phe | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Lys | Ala | Asp | Lys | Ala | His | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Pro | Lys | Gly | Glu | Lys |     |     |     |     |     |     |     |     |     |     |
|     |     | 50  |     |     |     |     |     |     |     |     |     |     |     |     |     |

&lt;210&gt; 47

&lt;211&gt; 54

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 47

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Asp | Ala | Ser | Ile | Asn | Phe | Ser | Glu | Phe | Ser | Gln | Lys | Cys | Pro | Glu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Thr | Trp | Lys | Thr | Thr | Ile | Ala | Lys | Glu | Lys | Gly | Lys | Phe | Glu | Asp | Met |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Lys | Ala | Asp | Lys | Ala | His | Tyr | Glu | Arg | Glu | Met | Lys | Thr | Tyr | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

Pro Pro Lys Gly Glu Thr  
50

<210> 48  
<211> 38  
<212> PRT  
<213> Homo sapiens

<400> 48  
Pro Asp Ala Ser Val Asn Ser Ser Glu Phe Ser Lys Lys Cys Ser Glu  
1 5 10 15  
Arg Trp Lys Thr Met Pro Thr Lys Gln Gly Lys Phe Glu Asp Met Ala  
20 25 30  
Lys Ala Asp Arg Ala His  
35

<210> 49  
<211> 54  
<212> PRT  
<213> Homo sapiens

<400> 49  
Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Leu Val  
1 5 10 15  
Arg Gly Lys Thr Met Ser Ala Lys Glu Lys Gly Gln Phe Glu Ala Met  
20 25 30  
Ala Arg Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile  
35 40 45  
Pro Pro Lys Gly Glu Thr  
50

<210> 50  
<211> 54  
<212> PRT  
<213> Homo sapiens

<400> 50  
Leu Asp Ala Ser Val Ser Phe Ser Glu Phe Ser Asn Lys Cys Ser Glu  
1 5 10 15  
Arg Trp Lys Thr Met Ser Val Lys Glu Lys Gly Lys Phe Glu Asp Met  
20 25 30  
Ala Lys Ala Asp Lys Ala Cys Tyr Glu Arg Glu Met Lys Ile Tyr Pro  
35 40 45  
Tyr Leu Lys Gly Arg Gln  
50

<210> 51  
<211> 74  
<212> PRT  
<213> Homo sapiens

<400> 51  
Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu



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|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1   |     |     | 5   |     |     |     |     | 10  |     |     | 15  |     |     |     |     |
| Phe | Cys | Ser | Glu | Tyr | Arg | Pro | Lys | Ile | Lys | Gly | Glu | His | Pro | Gly | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ile | Gly | Asp | Val | Ala | Lys | Lys | Leu | Gly | Glu | Met | Trp | Asn | Asn | Thr |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala | Ala | Asp | Asp | Lys | Gln | Pro | Tyr | Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu | Lys | Tyr | Glu | Lys | Asp | Ile | Ala | Ala | Tyr |     |     |     |     |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     |     |     |     |     |     |     |

<210> 52  
 <211> 74  
 <212> PRT  
 <213> Homo sapiens

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 52 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Lys      | Lys | Asp | Pro | Asn | Ala | Pro | Lys | Arg | Pro | Pro | Ser | Ala | Phe | Phe | Leu |
| 1        |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Phe      | Cys | Ser | Glu | His | Arg | Pro | Lys | Ile | Lys | Ser | Glu | His | Pro | Gly | Leu |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser      | Ile | Gly | Asp | Thr | Ala | Lys | Lys | Leu | Gly | Glu | Met | Trp | Ser | Glu | Gln |
|          |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ser      | Ala | Lys | Asp | Lys | Gln | Pro | Tyr | Glu | Gln | Lys | Ala | Ala | Lys | Leu | Lys |
|          | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu      | Lys | Tyr | Glu | Lys | Asp | Ile | Ala | Ala | Tyr |     |     |     |     |     |     |
| 65       |     |     |     |     | 70  |     |     |     |     |     |     |     |     |     |     |

<210> 53  
 <211> 74  
 <212> PRT  
 <213> Homo sapiens

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 53 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Phe      | Lys | Asp | Pro | Asn | Ala | Pro | Lys | Arg | Leu | Pro | Ser | Ala | Phe | Phe | Leu |
| 1        |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Phe      | Cys | Ser | Glu | Tyr | Arg | Pro | Lys | Ile | Lys | Gly | Glu | His | Pro | Gly | Leu |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser      | Ile | Gly | Asp | Val | Ala | Lys | Lys | Leu | Gly | Glu | Met | Trp | Asn | Asn | Thr |
|          |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ala      | Ala | Asp | Asp | Lys | Gln | Pro | Tyr | Glu | Lys | Lys | Ala | Ala | Lys | Leu | Lys |
|          | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Glu      | Lys | Tyr | Glu | Lys | Asp | Ile | Ala | Ala | Tyr |     |     |     |     |     |     |
| 65       |     |     |     |     | 70  |     |     |     |     |     |     |     |     |     |     |

<210> 54  
 <211> 74  
 <212> PRT  
 <213> Homo sapiens

|          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 54 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Phe      | Lys | Asp | Pro | Asn | Ala | Pro | Lys | Arg | Pro | Pro | Ser | Ala | Phe | Phe | Leu |
| 1        |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Phe      | Cys | Ser | Glu | Tyr | His | Pro | Lys | Ile | Lys | Gly | Glu | His | Pro | Gly | Leu |
|          |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr  
           35                  40          45  
 Ala Ala Asp Asp Lys Gln Pro Gly Glu Lys Lys Ala Ala Lys Leu Lys  
           50                  55          60  
 Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr  
 65                  70

<210> 55  
 <211> 74  
 <212> PRT  
 <213> Homo sapiens

<400> 55  
 Phe Lys Asp Ser Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Leu Leu  
   1                  5          10          15  
 Phe Cys Ser Glu Tyr Cys Pro Lys Ile Lys Gly Glu His Pro Gly Leu  
           20                  25          30  
 Pro Ile Ser Asp Val Ala Lys Lys Leu Val Glu Met Trp Asn Asn Thr  
           35                  40          45  
 Phe Ala Asp Asp Lys Gln Leu Cys Glu Lys Lys Ala Ala Lys Leu Lys  
           50                  55          60  
 Glu Lys Tyr Lys Lys Asp Thr Ala Thr Tyr  
 65                  70

<210> 56  
 <211> 74  
 <212> PRT  
 <213> Homo sapiens

<400> 56  
 Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu  
   1                  5          10          15  
 Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu  
           20                  25          30  
 Ser Ile Gly Asp Val Val Lys Lys Leu Ala Gly Met Trp Asn Asn Thr  
           35                  40          45  
 Ala Ala Ala Asp Lys Gln Phe Tyr Glu Lys Lys Ala Ala Lys Leu Lys  
           50                  55          60  
 Glu Lys Tyr Lys Lys Asp Ile Ala Ala Tyr  
 65                  70

<210> 57  
 <211> 84  
 <212> PRT  
 <213> Homo sapiens

<400> 57  
 Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Tyr Ala  
   1                  5          10          15  
 Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro Asp  
           20                  25          30  
 Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg Trp  
           35                  40          45  
 Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala Lys

50                      55                      60  
 Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro Pro  
 65                      70                      75                      80  
 Lys Gly Glu Thr

<210> 58  
 <211> 92  
 <212> PRT  
 <213> Homo sapiens

<400> 58  
 Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu  
 1                      5                      10                      15  
 Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu  
                     20                      25                      30  
 Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr  
                     35                      40                      45  
 Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys  
                     50                      55                      60  
 Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr Arg Ala Lys Gly Lys Pro  
 65                      70                      75                      80  
 Asp Ala Ala Lys Lys Gly Val Val Lys Ala Glu Lys  
                     85                      90